1 A sealed balloon containing some helium gas is released and rises into the upper atmosphere. As the balloon rises the temperature of the helium falls and the balloon expands.

Explain, in terms of atoms,

(a) the effect of the fall in temperature on the helium pressure,

Helium atoms move more slowly and enter into fewer collisions with the balloon walls . This results in lower pressure of He inside the balloon .

(b) the effect of the expansion of the balloon on the helium pressure.

This results in larger surface area of balloon walls . So He atoms move further apart , hence there are fewer collisions with balloon walls. This results in lower gas pressure inside the balloon.